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JANUARY, 1952

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# American Foundryman

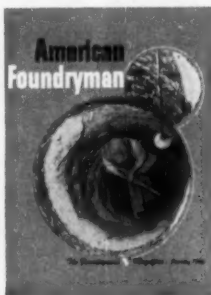
January, 1952



Official publication of American Foundrymen's Society

- Editorial—Evaluate . . . Then Control: J. B. Caine.
- Metallurgy of Shell Molding: B. N. Ames, S. B. Donner and N. A. Kahn.
- Name Committees for International Foundry Congress.
- Side Risers Cut Cleaning Room Costs on Alloy Iron Castings: Roy Chamberlin.
- Plan A.F.S. Wisconsin, Southeastern Regional Foundry Conferences.
- Nominate A.F.S. Officers and Directors.
- Basic Cupola Operation: John P. Holt.
- Modern Foundry Methods—Equipment and Layout for Small Production Foundry.
- Casting Process Stars on TV.
- Gray Iron Fluidity Variables—Effect of Composition and Pouring Temperature: Lew F. Porter and Philip C. Rosenthal.
- Cobalt 60 in the Foundry: John C. Penneck.
- New A.F.S. Members.
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- Chapter Activities News
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- Future Meetings and Exhibits.
- Advertisers' Index.
- A.F.S. Employment Service.

The American Foundrymen's Society is not responsible for statements or opinions advanced by authors of papers in its publication.



Charging-door view of installation of monolithic cupola lining by air placement. Operator has chipped out slag and damaged refractory around tuyeres, tap hole, and slag hole and is ready to blow in the granular refractory and water. Pipe in lower right hand portion of picture will form slag hole. Air placement guns are being used for lining both basic and acid cupolas.

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FEBRUARY, 1952

VOLUME XXI, NUMBER 2

February, 1952

# American Foundryman



Official publication of American Foundrymen's Society

Editorial—What Is Precision Casting?: Hiram Brown.

1952 International Foundry Congress.

Two U.S. Tours Scheduled for Overseas Visitors to International Foundry Congress.

Tentative Program and Partial List of Exhibitors for 1952 A.F.S. International Foundry Congress & Show.

Install Twelfth A.F.S. Student Chapter at University of Michigan.

Coreblowing Machines—What They Can Do for Your Foundry: John A. Mescher.

Gating Gray Iron for Production Foundries: James J. Silk.

Nodules and Nuclei in Nodular Iron: J. E. Rehder.

Synthetic Resin Corebinders—A Report of the Institute of British Foundrymen.

Modern Foundry Methods—Low Cost Mechanization Boosts Production.

Foundry Personalities.

News of A.F.S. Technical Committees.

Chapter Activities News.

Letters to the Editor.

Future Meetings & Exhibits.

New Foundry Products.

Foundry Literature.

Abstracts of Technical Articles.

Foundry Firm Facts.

Advertisers' Index.

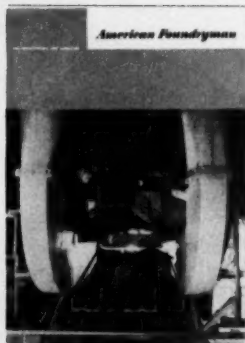
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The American Foundrymen's Society is not responsible for statements or opinions advanced by authors of papers in its publication.



Overhead source of sand for two molders is an important part of small, effective mechanization program completed at Arrow Pattern & Foundry Co., Chicago, recently. Entire unit, described in Modern Foundry Methods on page 57, enabled molders to raise production without increased effort by 30 per cent within a week.

Published monthly by the American Foundrymen's Society, Inc., 616 S. Michigan Ave., Chicago 5. Subscription price in the U. S., Canada and Mexico, \$5.00 per year; elsewhere, \$6.00. Single copies, 50¢. Entered as second class matter July 22, 1938, under Act of March 3, 1879, at the Post Office, Chicago, Illinois. CENTRAL REPRESENTATIVE—R. E. Cleary, Commercial & Savings Bank Bldg., Berea, Ohio. MIDWESTERN—H. Thorpe Covington Co., 677 N. Michigan Ave., Chicago, Ill. EASTERN REPRESENTATIVE—Robert B. Weston, Gedney House, 65 Old Mamaroneck Rd., White Plains, N. Y. Telephone: 6-9558.



Workers require no dust masks and still enjoy a 10 per cent cooler atmosphere since Allis-Chalmers Mfg. Co., Milwaukee, designed and installed this dust collecting system on a shakeout in its No. 2 foundry. The system exhausts 16,000 cfm of air. Before installation, average dust count was 40 million particles per cu ft of air. After installation, the count dropped to 10 million. Free silica, previously 12 million particles, was reduced to 3 million — 60 per cent of the maximum specified by Wisconsin's Industrial Commission.

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# American Foundryman

april 1952 / Volume 21 • Number 4

OFFICIAL PUBLICATION OF THE American Foundrymen's Society



Atlantic City's Auditorium, largest in the world, will be the Mecca for free world foundrymen May 1 through 7 when it houses the 1952 A.F.S. International Foundry Congress & Show. Attractions for "Every Foundry in '52" will be a week-long program of top technical information, plus the huge Foundry Show, in which more than 250 top foundry suppliers will show their wares.

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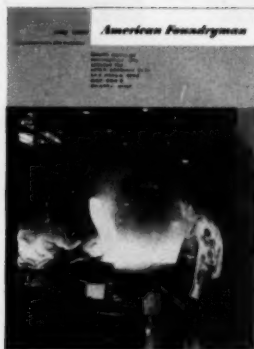
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# American Foundryman

May 1952 / Volume 21 • Number 5

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Pouring a large diesel engine block on a mold conveyor at Caterpillar Tractor Co., Peoria, Ill. Man at right removed sand core plug from third sprue as metal filled T-shaped pouring box. Wires in center foreground are connected to an alarm which sounds when mold cavity is full, preventing waste of 200 to 300 lb of iron in runner box. Pouring station has side exhaust hold for comfort of pouring crew and nearby workmen.

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# American Foundryman

June 1952 / Volume 21 • Number 6

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Melter poling cold-melt air furnace heat at Frazer & Jones Div., Eastern Malleable Iron Co., Syracuse, N. Y. Moisture in the green sapling creates a boll, bringing colder metal to the surface in contact with full heat of the flame. Clusters of unmelted metal are broken up and the slag is worked back to the skimming door. After additions of alloys or carbon, the boiling and rabbling hastens their absorption. Slagging trough in right foreground utilizes jet of water to break up and carry away slag.

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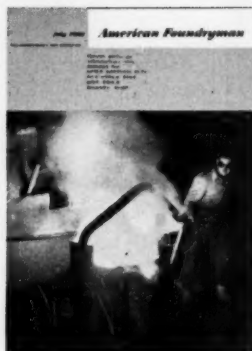
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# American Foundryman

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Inoculating nodular iron with a nickel-magnesium alloy produced this pyrotechnic display in the Mahwah (N.J.) Plant of American Brake Shoe Co. Now taking its place as another cast metal for designers and manufacturers to use, nodular or spheroidal graphite cast iron was introduced to America at the 1948 A.F.S. Convention in Philadelphia as a material produced by cerium inoculation. Processes in which magnesium, calcium, and zirconium are the active inoculants also have been developed.

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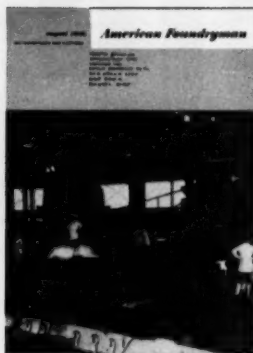
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# American Foundryman

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The Big Pour—303,000 lb of steel into a single mold in 14½ min—occurred at Continental Foundry & Machine Co., East Chicago, Ind. Molding the 300,000 lb anvil took two weeks, drying 48 hr. Special safety precautions for pouring included new asbestos coats and leggings, hard hats, safety shoes, and goggles for the workmen, pre-arranged escape routes in case of serious trouble, and double crews in the three cranes used. New cables were installed in the cranes, hooks were double-tested. Three open hearths melted the steel poured early that morning. In the afternoon the riser was touched up with 25,000 lb of steel and a three-electrode hot top was used to keep the riser molten. The casting cooled in the sand for 60 days.

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September 1952 / Volume 22 • Number 3

Official Publication of the American Foundrymen's Society



Setting an external core for a 50,000-lb. 4-stage centrifugal blower casting at Chambersburg Engineering Co., Chambersburg, Pa. The finished mold—entirely cement-bonded sand—consists of a bed, a semi-cylindrical core with a separate nozzle core at each end, and four external cores. Already in place is one of the nozzle cores (dark colored). At the start, a bed of cement sand is levelled in a frame containing core prints. The semi-cylindrical core is rammed in place in a box assembled on the bed. Cores are aligned using gage lines on the bed and a level. All compound surfaces are carefully gaged during assembly to insure specified wall thicknesses.

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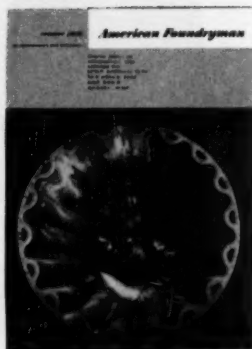
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# American Foundryman

October 1952 / Volume 22 • Number 4  
Published by American Foundrymen's Society



Rough treatment and a short life, that has been the lot of the lowly cinder pot in the past. Today, with lower iron content ores and increased use of oxygen, the treatment is rougher than ever. Couple these things with the demand for bigger "thimbles" and you have plenty of foundry problems to solve. The cover picture indicates some of the solutions—corrugated walls, expandable rims, copper-coated bottoms—that are resulting in bigger and better cinder pots. The picture story (on page 53) tells something of how the pots are made at the Midland, Pa., plant of the Mackintosh-Hemphill Co.

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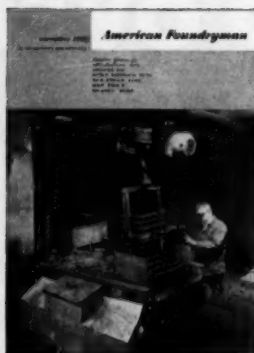


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# American Foundryman

November 1952 / Volume 22 • Number 5

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Sand shaken out of the stack molds in Cutler-Hammer's (Milwaukee) foundry is carried to bucket elevator in left rear and elevated to vibrating screen above storage bin. The application is typical of the effective mechanization which can be achieved by following recommendations included in the article on how to start mechanizing a small foundry, page 53, by W. A. Morley, Olney Foundry Div., Link-Belt Co., Philadelphia.

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# American Foundryman

December 1952 / Volume 22 • Number 6

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Universal symbols of great occasions, bells are among the most ancient products of the metal casting industry. In keeping with the season and the hope of free men everywhere, the December cover depicts one step in preparation for casting the 10-ton, Anglo-American "Freedom Bell." Workman is using strickle board in sweep molding the core for casting—a practice still common among European bell foundries. For more facts and pictures on bell founding turn to article on page 50.

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